Annual Report
OF
The Royal Botanic Garden
Calcutta

1889 – 1890

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ANNUAL REPORT OF THE ROYAL BOTANIC GARDEN, CALCUTTA, FOR THE YEAR 1889-90.

No. 17G, dated Seebpore, the 14th May 1890.

From—Brigade-Surgeon George King, M.B., LL.D., F.R.S., C.I.E., Superintendent, Royal Botanic Garden, Calcutta,

To—The Secretary to the Government of Bengal, Financial Department.

I have the honour to submit herewith the one hundred and third Annual Report of the Royal Botanic Garden.

ANNUAL REPORT OF THE ROYAL BOTANIC GARDEN, CALCUTTA, FOR THE YEAR 1889-90.

No new work of much importance was carried out in the garden during the year, and the attention of the staff was chiefly devoted to the maintenance, in as high a state of efficiency as possible, of the various departments of the garden. The display of orchids was by far the finest that has been seen in the garden since I took charge of it nineteen years ago. This improvement is due partly to the great recent extension of correspondence and interchange with Collectors, both in India and outside its borders, and partly to improvements in our conservatories and in our methods of cultivation. The number of tropical South American orchids in the collection is steadily increasing; and our accessions have been obtained for the most part by exchange for indigenous species. Much labour and material have been expended on the roads within the garden. It is, however, a matter of great regret that the new road leading to the garden along the river bank remains still incompleted by the Department of Public Works. The completion of this road would greatly increase the number of visitors; for there is no doubt that the crowded condition of the present route through the narrow bazars of Howrah, Ramkristopore and Seebpore acts as a deterrent to many. The last of the disputes as to boundaries of the garden having, by the advice of the Legal Remembrancer, been settled by compromise, it only now remains to prevent the recurrence of any encroachments in future by the erection of a proper boundary fence. Estimates for this work are understood to be in preparation by the Executive Engineer in charge of the Workshop Division.

2. *Economic plants.*—A considerable correspondence regarding plants of economic interest of various sorts forms part of the regular work of the Superintendent. During the past year there has been no diminution of this. And the issues of economic plants themselves to Government officers and to others have been considerable. The cheap and efficient extraction of rheea fibre still remains an unsolved problem; and I am informed by Colonel Cadell, V.C., Chief Commissioner of the Andamans, that the working of the French machine so generously presented to the Settlement there by Sir Walter deSouza has not hitherto been very successful. A process involving the use of very simple machinery is understood to be under trial by private enterprise in Bengal; but, with what promise, I have not yet heard. The cultivation of the species of plantain which produces the fibre known as *Manilla Hemp* is receiving a patient and extended trial under Colonel Cadell's fostering care in the Andamans; and I trust the result may prove favourable. The use of *Sabai*, *Bhabur* or *Babui* grass, which was first suggested as a good raw material for paper-making in the annual reports of this garden, has now become fairly established; and large quantities are regularly purchased by the various paper mills in Northern India. As yet, however, this fibre does not appear to form an article of export.

3. *Herbarium.*—From a scientific view the collection of dried and named plants is the most important feature in a Botanic Garden. But it is the feature which has the least amount of interest for the general public. Very few of even the most regular visitors to this garden have ever been inside the building in which the Calcutta Herbarium is housed, and they know little of the extent

and importance of the collection. It may not be out of place therefore to give a brief account of its recent progress. Up to the year 1882, the Herbarium was crowded in a small and totally insufficient building. During the late Sir Ashley Eden's tenure of office as Lieutenant-Governor, an admirable new structure, modelled to some extent on the new Herbarium building at Kew, was erected in the garden. At the time when the mounted collection was removed from the old into this new building it was accommodated in 93 cabinets. It now fills 186 cabinets, uniform in size with the former 93; and the number of specimens is estimated at considerably more than half a million. And there is, over and above, a very large number of specimens in boxes and open shelves which have not yet been examined or named. Fresh consignments of specimens are continually arriving; and, in view of the recent orders of the Government of India for the botanical exploration of Burma and Assam, for the centralization (on the recommendation of the authorities at Kew) of Indian botanical operations in the Calcutta garden, and for the appointment of its Superintendent as Director of the Botanical Survey of India, accessions at a still increased rate are inevitable. The treatment of the material thus received involves not a little mechanical labour, and an amount of critical botanical work of which none but an expert can form any just idea. Specimens, on arrival, have to be accurately ticketed and to be laid out on sheets of paper for being mounted. That is mechanical work, and is to a large extent done by comparatively unskilled labour, under supervision of course. But, after having been mounted and poisoned, the specimens have to be arranged according to natural families, and finally referred to their genera and species. This is botanical work, and it can be done only by a skilled botanist. Moreover, it can be done quickly and accurately only by a botanist of experience. It takes many years to acquire such experience when a Flora so varied and extensive as that of India has to be dealt with, comprising as it does more than 14,000 species of flowering plants, to say nothing of the still more numerous flowerless species. Several specimens of each species are usually received in every gathering, and these are disposed of in the following way. One or more is incorporated in the general Herbarium, while the duplicates are distributed to other Herbaria, either in India or in Europe. The distribution of named specimens of Indian plants to the great Herbaria located at the centres of botanical science in Europe is much appreciated by European botanists. The working of this on any considerable scale has, however, been possible only for the past three years, during which time I have had the advantage of the services, as Curator of the Herbarium, of Dr. D. Prain, who is at once an accomplished botanist and an energetic man. But, even with Dr. Prain's help, the work is getting very heavy, and it may be necessary before long to apply for the services of yet another botanist. During the year under review the following named specimens have been issued :—

Herbarium, Royal Gardens, Kew (*new and critical species only*) ...	459
Herbarium, Royal Botanic Garden, Peradeniya	405
Herbarium, Saharanpur	660
Government Central Museum, Madras	103
Herbarium, Botanic Garden, Singapore	361
Government Museum, Perak	286
College of Science, Poona	50
C. Curtis, Esq., Forest Department, Penang	123
J. S. Gamble, Esq., Conservator of Forest, Madras	88
W. A. Talbot, Esq., Deputy Conservator of Forests, North Canara	95
R. H. Hullett, Esq., Principal, Raffles Institute, Singapore ...	14
G. Mann, Esq., Conservator of Forests, Assam	200
Dr. G. Watt, C.I.E., Simla	25
British Museum, London	507
Herbarium, Imperial Gardens, St. Petersburgh	739
Do. do. (*specially asked for*)	86
Smithsonian Institution, Washington, U. S. A.	707
Royal Botanical Museum, Berlin	509
Herbarium, Jardin des Plantes, Paris	432
Royal Botanical Museum, Florence	90
Royal Herbarium, Leiden	539
Imperial Herbarium, Vienna	328
Carried over ...	6,806

Brought forward	...	6,806
Herbarium of the University of Cambridge	...	272
Herbarium of the University of Edinburgh	...	254
Herbarium of the University of Upsala	...	220
Herbarium of the University of Aberdeen	...	180
Herbarium of the University of Utrecht	...	123
Herbarium of M. A. de Condolle, Geneva	...	634
Herbarium of Signor O. Beccari, Florence	...	491
Herbarium, Botanic Garden, Buitenzorg	...	246
		9,226

On the other hand, 6,060 specimens have been received from various contributors, amongst whom the chief are the Director of Kew, the Director of the Botanic Garden, Singapore, the Curator of the Museum at Perak, Mr. Curtis, of the Penang Forest Department, Messrs. J. Sykes Gamble, Gustav Mann and W. A. Talbot, of the Indian Forest Department. Dr. Prain has also, in connection with the botanical survey, collected 808 plants. The determination and description of hitherto undescribed species is a very important part of herbarium work, eliciting, as it does, whatever botanical acumen and sagacity a man may possess. A considerable number of new species have been described during the year. As regards publications, a monograph by the Superintendent, of the Jack-fruits, Oaks and Chestnuts of the Indo-Malayan region has been issued during the year. This forms the second volume of the Garden Annals, and is illustrated by 104 quarto figures, drawn by the garden artists, and lithographed mostly at the Government School of Art. The third and concluding part of the Superintendent's monograph of the genus *Ficus* has also been issued; and to this is appended a most important memoir by Dr. D. D. Cunningham, F.R.S., on the mode of fertilization in one of the species. Dr. Prain has published a most interesting paper on new species of *Pedicularis*, and another on the Flora of the Laccadive Islands; and he has prepared, with reference to a suggestion of the Agricultural Department of the Government of India, papers on the Non-indigenous Element in the Andamans' Flora and on the Flora of Diamond Island. He has besides elaborated a large and important monograph of the difficult and extensive genus *Pedicularis*. This is at present passing through the press, and will soon be published in the third volume of the Garden Annals.

Botanical collections in Burma and Assam.—The Government of India, in the Agricultural Department, having made over to the garden the sum of Rs 1,000 for the purpose of collecting specimens in Burma and Assam, I was enabled to do more than usual in both these provinces. In Burmah a native Collector was sent into the Shan Hills, and a good many interesting specimens were obtained. The country was still, however, rather too unsettled for very successful collecting. Dr. Prain personally visited Diamond Island, the Andaman Islands, and also the Great Coco and Table islands which lie to the north of that group, and which were previously botanically unknown. Dr. Prain secured good collections in all these localities, and, as already stated, he has prepared some results of these visits for publication. In Assam, the exploration grant was expended in maintaining a native collector in the Aka Hills, under the supervision of Mr. Penny. The collector was, however, unable to penetrate far into the Aka country. A Eurasian collector was also subsidised in Cachar.

5. *Library.*—The library has been entirely rearranged; many tracts and small memoirs, hitherto uncatalogued, have been incorporated; and a fresh catalogue has been prepared by Dr. Prain. A large number of volumes have also been rebound, and a few new books have been acquired.

6. *Interchange of plants and seeds.*—From the distribution lists attached as appendices to this report, it will be seen that the issues of packets of seeds during the year amounted to 3,619 as against 2,075 for the previous year; and that no fewer than 58,901 living plants were distributed, as against 31,183 during 1888-89. Both plants and seeds were issued mostly for public purposes. Sales to private persons of plants which are easily obtainable from private nurseries are not encouraged, as it is not desired to interfere with commercial enterprise. Packets of seeds to the number of 1,282 and 13,392 living plants were received during the year, both numbers being thirty per cent. in excess of those of last year.

7. *Lloyd Botanic Garden.*—Mr. W. A. Kennedy was in charge of the Botanic Garden at Darjeeling for nine months of the year. During the remaining three months Mr. Kennedy was on privilege leave in Europe, and his duties as Curator were performed by Mr. Hartless, one of the assistants on the Cinchona Plantation. Both Messrs. Kennedy and Hartless, in addition to their duties in the garden itself, devoted a good deal of attention to the general improvement of the station of Darjeeling by planting young trees in all hopeful spots. This is, however, a very difficult and, I fear to some extent, a thankless task; for the present happiness and unbridled liberty of milk-cows and goats is considered by many of the residents as of more consequence than the future amenity of the station.

8. The sum provided in the budget for the maintenance of the gardens, both at Calcutta and Darjeeling, was spent in full. And the whole of the additional sum of Rs. 1,000, contributed by the Government of India for botanical collections in the provinces of Assam and Burmah, was also expended. The estimated receipts (Rs. 1,700) were almost realised, there being a short-coming of only Rs. 46-5.

9. Dr. Prain was in charge of the Herbarium and library during the year, and worked with untiring zeal. As I have explained in paragraph 3, the present efficient condition of the scientific department of this institution is very largely due to the skill and energy of this officer. I have also to acknowledge the efficient assistance in comparing specimens of various difficult and obscure plants given during the year by Mr. W. Botting Hemsley, F.R.S., Indian Assistant at the Royal Herbarium, Kew. Messrs. McHardy and Proudlock have respectively carried on the duties of Curator and Assistant Curator of the garden during the year with much enthusiasm and energy. Baboos Gopal Chandra Dutta, the head of the office establishment, and Prosonno Coomar Sein, the garden overseer, both discharged their duties admirably. The latter, I greatly regret to say, died from the effects of a severe attack of influenza shortly after the year ended. Man and boy he had been connected with the garden for fifty years, and in him Government lost a faithful servant of the good old school. Innocent of the kind of information by which now-a-days a University degree is secured, and conservative to the last degree of old customs and ways of thinking, the Baboo possessed an amount of knowledge of plants, and of their cultivation and uses, which it is quite unusual to find amongst native gentlemen of the present day.

10. The usual appendices, four in number, are attached:—

APPENDIX I.

Statement showing plants received from 1st April 1889 to 31st March 1890.

FROM WHOM RECEIVED.	Wardian cases.	Boxes.	Number of plants.
Royal Garden, Kew, London	4	1	175
Royal Botanic Garden, Peradeniya, Ceylon	2	...	70
Botanic Garden, Glasgow	...	1	683
Ditto, Georgetown, Demerara	3	5	330
Ditto, Singapore	1	...	19
Ditto, Ootacamund	...	2	290
Ditto, Saharanpur	...	2	927
Ditto, Darjeeling	...	15	1,116
Zoological Garden, Alipore	...	...	2
Agri-Horticultural Society, Calcutta	...	2	792
Agri-Horticultural Garden, Lahore	...	4	24
Conservator of Forests, Madras	...	...	7
Ditto, Shillong	...	4	395
Messrs. Reasoner Brothers, Royal Palm Nurseries, Manatee, Florida	...	...	5
Messrs. H. Low and Company, Clapton Nursery, London ...	...	1	18
„ F. Sanders and Company, St. Albans, England ...	2	...	46
E. D. Sturtevant, Esq., Florist, Borden Town	...	1	2
Army and Navy Auxiliary Co-operative Supply, Limited, Westminister	...	...	27
T. C. Anderson, Esq., Ceylon	1	1	85
G. W. Bartlett, Esq , Calcutta	...	...	4
Dr. Bell, Chittagong	...	...	1
A. Betts, Esq., Calcutta	...	...	10
Major A. W. Baird, R.E., Calcutta	...	...	1
Sir W. Bowman, Joldwnynds, Dorking		1	2
J. McCaw, Esq., Calcutta	...	...	37
Dr. D. D. Cunningham, Calcutta	...	..	2
C. Curtis, Esq., Penang	3	3	331
Mrs. Day, Calcutta	...	...	1
H. Durnford, Esq , Singapore	1	...	193
Captain Elcoate, S. *Victory*	..	...	5
Dr. French, Buxa, Bhootan	...	..	1
J. Gammie, Esq., Mungpoo	...	7	335
Hon'ble C. B. Garrett, Calcutta	...	...	2
General Gatacre, D. S. O.	...	1	1
G. Barton Groves, Esq., Dacca	1	1	32
W. G. Head, Esq., Crystal Palace, London	1	1	347
H. C. Johnston, Esq., Singapore	2	...	44
Sir George Macleay, Pendell Court, England	1	...	27
J. L. Lister, Esq., Kalimpong	...	4	242
Mrs. Lyall, Calcutta	...	...	1
Dr. C. Mackenzie, Calcutta	...	...	6
E. H. Man, Esq., Andamans	2	...	162
C. Maries, Esq., Gwalior	...	9	830
G. H T. Mayers, Esq., Allahabad	...	3	29
T. N. O'Connell, Esq., Simla	...	1	39
J. Parkes, Esq., Kalimpong	...	12	726
S. E. Peal, Esq., Sibsagar	...	..	5
G. McD. Peche, Esq., Moulmein	...	5	530
M. V. Portman, Esq., Andamans	4	...	84
Dr. D. Prain	2	...	58
Mrs. D. Prain	...	...	44
Mr. J. C. Prazer	...	3	289
R. Rose, Esq., Lucknow	...	1	70
E. Smith, Esq., Dunedin	1	2	96
W. Stalkartt, Esq., Ghoossery	...	...	2
Dr. C. J. Warden, Calcutta	...	...	2
Baboo P. C. Sein, Seebpore	...	...	1
„ S. P. Chatterjee, Calcutta	...	1	357

APPENDIX I—*continued.*

From whom received.	Wardian cases.	Boxes.	Number of plants.
Haree Mallee, Maniktolla	...	...	94
Abdool Hok	...	4	866
Unknown donors	...	2	166
Bought from bazar	...	...	4
Botanic Garden, Saharanpur			
Ditto, Bangalore			
Deputy Postmaster, General, Lucknow	...	...	2,250
C. Maries, Esq., Superintendent, State Gardens, Gwalior ...			
Agri-Horticultural Society's Garden, Madras			
Total ...	31	100	13,392

APPENDIX II.

Statement showing plants sent out from 1*st April* 1889 *to* 31*st March* 1890.

To whom sent.	Wardian cases.	Boxes.	Number of plants.
Government House Garden, Calcutta	...	...	23
Belvedere Garden, Alipore	...	...	8
His Highness the Maharjah of Jeypore	...	14	193
Royal Garden, Kew, London	3	4	419
Imperial Garden, St. Petersburgh	...	1	79
Royal Botanic Garden, Peradeniya, Ceylon	...	1	77
Botanic Garden, Edinburgh	...	1	71
Ditto, Glasgow	1	1	110
Ditto, George Town, Demerara	2	...	36
Ditto, Ootacamund	...	1	77
Ditto, Saharanpur	...	4	555
Ditto, Darjeeling	...	2	19
Eden Garden, Calcutta	...	...	10
Zoological Garden, Alipore	...	...	31
Public Garden, Bhagulpore	...	1	4
Victoria Garden, Bombay	1	..	58
Agri-Horticultural Garden, Lahore	...	24	353
Ditto, Calcutta	...	...	450
Sir George Macleay, Pendell Court, Surrey	1	...	8
„ W. Bowman, Joldwynds	...	1	70
W. G. Head, Esq., Crystal Palace, London	...	1	77
R. M. Redhead, Esq., Manchester	1	2	154
E. Smith, Esq., Dunedin	1	1	146
T. Brocklebank, Esq., Liverpool	1	...	31
James Orr, Esq, England	...	1	44
Mrs. R. N. Otter, England	...	1	46
The Dowager Marchioness of Waterford	1	...	38
Lady Bradford, England	...	1	38
Miss Little, Blackheath	...	1	87
Political Agent, Sikkim	...	23	185
Ditto Superintendent, Jhalrapatan	...	1	4
Chief Commissioner, Andamans	2	...	39
Superintendent of Forests, Penang	...	3	306
Director of Land Records and Agriculture, Rangoon	...	2	48
Officiating Director, Forest School, Dehra-Dun	...	1	19
Deputy Commissioner, Garo Hills, Assam	...	8	242
Sub-divisional Officer, Alipore, Western Duars	...	14	200
Ditto, Feni	...	2	38
Ditto, Pakur	...	11	227
District Magistrate, Bhagulpore	...	7	164
Cantonment Magistrate, Dum-Dum	...	...	250
Ditto, Barrackpore	...	...	25

APPENDIX II—*continued.*

To whom sent.	Wardian cases.	Boxes.	Number of plants.
Deputy Magistrate, Ooloobaria	...	...	150
Secretary, District Board, Sarun	...	17	400
Ditto, Railway Institute, Jubbulpore	...	12	300
Ditto, Church Committee, Midnapore	...	2	35
Chairman, District Board, Noakhally	...	12	285
Ditto, ditto, Serajgunge	...	11	250
Ditto, Moorshidabad Municipality	...	3	48
Ditto, Serampore Municipality	...	...	65
Ditto, Rampore Beauleah Municipality	...	16	362
Ditto, Khulna Municipality	...	3	68
Vice-Chairman, Bogra Municipality, Sultanpur	...	2	30
Ditto, Midnapore Municipality	...	...	250
Ditto, Calcutta Municipality	...	4	400
Ditto, Station Committee, Silchar	...	4	54
District Engineer, Bhagulpore	...	25	660
Ditto, Dinagepore	.	31	730
Ditto, Pubna	...	4	100
Ditto, Midnapore	...	...	1,000
Ditto, Damooda District	...	49	1,000
Ditto, Town Road Municipality, Dacca		3	65
Ditto, Khulna	...	5	102
Executive Engineer, Burdwan	...	6	102
Ditto, Sijberrah	...	...	200
Ditto, Nazirgunge	...	...	12
Sub-Overseer, in charge Serajgunge Division	...	8	200
Ditto, Calcutta Workshop Division, Seebpore ...	...	...	12
Superintendent, Board of Revenue, Calcutta	...	...	200
Ditto, Roads and Buildings Corporation, Calcutta ...	...	...	500
Ditto, Presidency Jail, Calcutta	...	...	74
Ditto, Jail, Alipore	...	1	85
Ditto, Jail, Burdwan	...	1	50
Ditto, Jail, Mymensing	...	2	50
Ditto, Central Jail, Dacca	...	1	80
Ditto, Waterworks, Singapore	2	1	84
Ditto, Foundry and Shell Factory, Cossipore ...	...	...	261
Ditto, Small Arms Ammunition Factory, Dum-Dum	...	...	50
Ditto, Pussewa Factory, Jaunpore	...	1	1
Officiating Superintendent, Customs and Preventive Services, Calcutta	...	...	8
Manager, Garjeng Jhora Tea Estate, Jalpaiguri	...	1	12
Ditto Mahmarra ditto, Assam	...	9	159
Surveyor-General, Calcutta	...	...	101
Deputy Postmaster-General, Lucknow	...	2	62
Officiating Master of the Mint, Calcutta	...	...	275
Station Hospital, Calcutta	...	...	322
Zenana Mission, Calcutta	...	...	250
Presidency General Hospital, Alipore	...	...	1,222
Principal, Medical College, Calcutta	...	...	500
La Martinière, Calcutta	...	...	267
Senate House, University, Calcutta	...	...	36
The Union Orphan School, Calcutta	...	...	100
St. Teresa's Boarding School, Kidderpore	...	...	100
Reformatory School, Alipore	...	...	20
St. Agnes' School, Howrah	...	...	70
Christ Church Parsonage, Calcutta	...	...	150
Soldiers' Garden, Fort William	...	...	2,964
East Indian Railway	...	...	2,159
Eastern Bengal State Railway	...	18	3,300
Officer in charge, Telegraph Office, Diamond Harbour ...	...	...	100
Barrackpore Park	...	.	76
Sulkea Salt Golah	...	. .	1,103
Chartered Bank of India, Australia and China, Calcutta ...	..	...	50
Government Dockyard, Kidderpore	...	...	24
Practical Horticultural Institution, Cossipore	1 maund rheea stem.		
Bazar of the Little Sisters of the Poor	...		12
His Grace the Most Reverend Archbishop Goethals ...	...	...	4

APPENDIX II—*continued.*

To whom sent.	Wardian cases.	Boxes.	Number of plants.
Reverend Father C. Cesary, Jamalpore	...	3	47
„ Dumont, Ranchi	...	1	36
„ H. B. Hyde, St. John's Church, Calcutta	...	...	246
„ F. Rolfe, Howrah	...	..	24
„ F. W. A. Smith, Raneegunge	...	3	24
„ A. M. Banerjee, Calcutta	...	...	300
Hon'ble C. B. Garrett	...	...	239
T. C. Anderson, Esq., Ceylon	1	...	15
C. A. B. Anderson, Esq., Jalpaigori	.	3	33
Mr. S. Apcar, Calcutta	...	...	20
J. Ayers, Esq., Howrah	...	...	14
H. Bahr, Esq., Rampore Hât	...	1	16
G. W. Bartlett, Esq., Calcutta	...	...	13
A. Betts, Esq., Calcutta	...	..	50
J. Bradshaw, Esq., Seebpore	...	...	100
Miss. A. Bradshaw, Mussoorie	...	1	21
J. S. Brook, Esq., Jamalpore	..	23	500
Mrs. Buckley, Garden Reach	...	...	20
Colonel T. Cadell, v.c., Andamans	1	...	34
Chamberlain, Esq., Calcutta	...	...	6
F. Collis, Esq., Calcutta	...	...	4
Lt.-Col. Cowper, Poona	...	1	2
Dr. D. D. Cunningham, Calcutta	...	...	75
Mrs. Day, Calcutta	...	...	199
H. Doran, Esq., Howrah	...	...	40
Dr. J. A. Dyer, Pachamba	...	5	50
Sir John Edgar, K.C.I.E., Calcutta	...	...	12
Mr. Ezra, Calcutta	...	...	1
Mrs. Fleming, Calcutta	...	1	146
J. Gammie, Esq., Mungpoo	...	1	6
J. H. Gilbert, Esq., England	...	2	81
G. B. Groves, Esq., Dacca	1	2	37
John Halves, Esq., Calcutta	...	...	75
Captain Henderson, S. S. *Goorkha*	...	...	2
Ditto, S. S. *Manora*	...	...	6
„ Hutchinson, Burma	...	22	216
W. E. Kilburn, Esq, Calcutta	...	...	6
J. L Lister, Esq., Nimbong	..	6	135
Mrs. Lyall, Calcutta	...	3	221
G. Mafflin, Esq., Calcutta	...	...	102
E. H. Man, Esq., Andamans	1	...	34
C. Maries, Esq., Superintendent, State Gardens, Gwalior	...	45	1,970
Mrs. Maxwell, Howrah	...	...	24
G. H. T. Mayer, Esq., Cawnpore	...	11	278
E. G. McLeod, Esq., Kissengunge	...	1	2
E. F. Mondy, Esq., Dacca	...	5	100
Mrs. Morrison, Ghoosery	...	...	2
C. Nickels, Esq., Garden Reach	...	...	3
G. W. Noal, Esq., Seebpore	...	...	*420
J. D. Osmers, Esq., Calcutta	...	...	94
E. H. Palmer, Esq, Chandbally	...	6	112
G. McD. Peche, Esq., Moulmein	...	3	22
F. Pereira, Esq., Calcutta	..	...	14
Colonel Perreau, Calcutta	...	1	84
W. Pigott, Esq.	...	...	58
J. Q. Pigot, Esq.	...	...	20
M. V. Portman, Esq., Andamans	4	...	113
J. Robinson, Esq., Bhagulpore	...	11	261
E. C. Ryland, Esq., Rangamati	...	20	300
J. S. Slater, Esq., Seebpore	...	...	23
W. P. Smith, Esq., Bhagulpore	...	2	56
Mrs. Thomson, Calcutta	...	...	81
Dr. C. J. Warden, Calcutta	...	...	4
C. A. Wilkins, Esq., Bhagulpore	...	2	50
Messrs. Maurice, Feelman & Co., Calcutta	...	...	20,000*
„ Burn & Co., Calcutta	...	...	1

* And 4 maunds rheea stems.

APPENDIX II—*concluded.*

To whom sent.	Wardian cases.	Boxes.	Number of plants.
Bowreah Cotton Mills Company, Limited	...	...	1,000
Raja Mohima Ranjan Rai Chowdhoory, Rungpur ...	...	...	172
Baboo Rai Prosonno Coomar Banerjee, Bahadoor, Calcutta ...	...	...	14
„ „ Setal Chand Nahar Bahadoor, Azimgunge ...	...	2	38
„ G. C. Datta, Seebpore	...	...	111
„ P. C. Sein, „	...	...	14
„ S. P. Chatterjee, Calcutta	...	...	269
„ A. K. Bose, Belgoriah	...	...	7
„ A. T. Lahiri, Krisnaghur	...	1	1
„ B. C. Chatterjee, Baraset	...	...	1
„ B. L. Mookerjee, Seebpore	...	...	52
„ G. C. Dass, Nazirgunge	...	...	2
„ H. C. Gangooly, Santipur	...	..	5
„ H. S. Roy, Calcutta	...	...	1
„ H. T. Dass, Mondulghat	...	...	2
„ J. C. Lahiri, Calcutta	...	4	24
„ J. C. Biswas, Seebpore	...	...	3
„ K. C. Palit, Calcutta	...	...	8
„ K. M. Pal, Seebpore	...	...	6
„ K. N. Ghose, Bantra	...	...	2
„ M. N. Roy, Calcutta	...	3	42
„ N. B. Mitra, Dinajpur	...	7	148
„ O. N. Sein, Bally	...	...	1
„ P. C. Roy Chowdhoory, Seebpore	...	...	2
„ R. K. Roy, Goneshpur	...	...	34
„ R Maleah, Howrah	...	...	13
„ R. Mottle, Mozufferpore	...	...	15
„ S. B. Ghose, Seebpore	...	...	16
„ S. C. Chatterjee, Calcutta	..	...	4
„ S. C. Mookerjee, Seebpore	...	...	50
„ T. N. Chatterjee, Calcutta	...	...	5
„ U. N. Sein, Umbica-Culna	...	...	17
„ S. N. Singh, Balgarh	...	1	114
„ Dadabhoy, Calcutta	...	1	12
„ Venayek Ram Chander Laxmonjee, Bombay ...	...	1	1
Drobo Kumar Brahmochery, Seebpore	...	...	2
Bepin Chander Punchagni, Cossipore	...	...	3
Shaik Soobeed, Nazirgunge	...	...	6
„ Jomeerudy, Thana Makooah	...	...	34
„ Abdool Somer, Buxara	...	...	1
Khabill Kazie, Seebpore	...	...	2
Goburdhun Nusker, Trisbigha	...	6	359
Rup Chand Boiragi, Majirhat	...	...	4
Essan Chander, Malie, Nurseryman, Maniktolah .. .	...	...	100
Hari, Malie, Maniktolah	...	...	18
Messrs. F. Sander and Co., St. Albans, England	...	2	2,078
Total	24	602	58,901

APPENDIX III.

Statement showing seeds received from 1st April 1889 to 31st March 1890.

FROM WHOM RECEIVED.	Number of parcels or packets.
W. T. Thiselton Dyer, Esq., F.R.S., C.M.G., Director, Royal Garden, Kew, London	43
Dr. Regel, Imperial Garden, St. Petersburgh, Russia ...	13
Royal Botanic Garden, Peradeniya, Ceylon	4
Botanic Garden, Jamaica	1
Ditto, Trinidad	12
Ditto, Demerara	5
Ditto, Adelaide	35
Ditto, Melbourne	78
Ditto, Rockhampton	14
Ditto, Hobart Town	59
Ditto, Hong-Kong	1
Ditto, Singapore	3
Ditto, Mauritius	1
Ditto, Ballarat	13
Ditto, Saharanpur	53
Ditto, Darjeeling	320
Ditto, Bangalore	3
Victoria Garden, Bombay	1
George H. T. Mayer, Esq., Memorial Garden, Cawnpore ...	3
Baron Ferdinand von Mueller, F.R.S., Melbourne, Australia	6
Messrs. Dammann & Co., San Giovanni, Italy	66
„ Reasoner Brothers, Royal Palm Nurseries, Manatee, Florida	33
Secretary, Queensland Acclimatisation Society, Brisbane, Queensland	3
C. Curtis, Esq., Forest Department, Penang	3
Secretary to the Agri-Horticultural Society of India, Calcutta	7
Ditto ditto, Madras ...	1
Superintendent, Horticultural Garden, Lucknow ..	50
Ditto Government Agri-Horticultural Garden, Lahore	175
Conservator of Forests, Northern Circle, Madras	20
Ditto Assam, Shillong	2
Deputy Conservator of Forests, Haliyal, North Canara ...	1
District Forest Officer, North Malabar, Manantoddy ...	5
Reverend Arthur E. Summers, Baptist Mission, Pubna ...	22
J. W. Baker, Esq., Calcutta	1
W. H. Cheetham, Esq , Calcutta	1
Manager, Doonagiri Tea Estate, Ranikhet	1
B. L. Cumberland, Esq., Orange Grove Durban, Natal ...	1
Dr D. D. Cunningham, Calcutta	130
J. Gammie, Esq., Mungpoo	1
Deputy Commissioner, Garo Hills, Tura, Assam ...	2
Joseph Hughes, Esq., Townsville	19
G. H. F. Jamieson, Esq., Salt Range, Shahpur ...	1
Dr. G. King, C.I.E.	1
J. L. Lister, Esq., Kalimpong	8
District Forest Officer, Kurnool, Madras	1
Superintendent, Campbell Medical School and Hospital, Calcutta	1
C. Maries, Esq., Morar, Gwalior	21
George H. T. Mayer, Esq., Khusrubagh, Allahabad ...	7
R. Pantling, Esq., Mungpoo	2
Dr. David Prain, Royal Botanic Garden, Calcutta ...	8
A. Simson, Esq., Calcutta	1
Munshi J. P. Abraham, Colombo, Ceylon	1
Abdool Hok, Rangoon	1
Unknown parties	17
Total ...	1,282

APPENDIX IV.

Statement showing seeds distributed from the Royal Botanic Garden during the year 1889-90.

To whom sent.	Number of parcels or packets.
W. T. Thiselton Dyer, Esq., F.R.S., C.M.G., Director, Royal Garden, Kew, London	425
Dr. Regel, Imperial Garden, St. Petersburgh, Russia ...	209
Royal Botanic Garden, Peradeniya, Ceylon	13
Botanic Garden, Jamaica	4
Ditto, Trinidad	134
Ditto, Cambridge	295
Ditto, Brisbane, Queensland	88
Ditto, Melbourne	106
Ditto, Hobart Town, Tasmania	32
Ditto, Ballarat, Australia	1
Ditto, Edinburgh	293
Ditto, Demerara, British Guiana	136
Ditto, Buitenzorg, Java	15
Ditto, Singapore	17
Ditto, Ootacamund	2
Ditto, Saharanpur	80
Ditto, Darjeeling	117
Zoological Garden, Melbourne	87
M le Administrateur-Directeur, de le Socite Anonyme de Horticulture Internationale, Parc Leopold, Bruxelles, Belgium	8
M. Crepin, Directeur du Jardin Botanique de l'Etat, Bruxelles	1
Herr Max Leichtlin, Jardin Botanique Horticole, Baden-Baden	83
Director, Jardin des Plantes, Paris	2
Secretary to the Agri-Horticultural Society of India, Calcutta	1
Secretary to the Public Garden, Bhagulpur	1
Superintendent, Horticultural Garden, Lucknow	19
Ditto, Agri-Horticultural Garden, Lahore ...	15
Ditto, Ditto, Madras ...	4
Ditto, Duthie Park, Aberdeen	65
Ditto, Victoria Garden, Bombay	2
Ditto, Gwalior State Garden, Morar	37
Ditto, Balasore Intermediate Jail, Balasore ...	1
Ditto, Beerbhoom Jail	2
Ditto, Bhagulpore Central Jail	1
Ditto, Burdwan Jail	7
Ditto, Central Jail, Alipore	2
Ditto, Do. Rajahmundry	17
Ditto, Jail, Durbhunga	1
Ditto, Maimensing Jail	1
Ditto, Central Jail, Midnapore	2
Ditto, Monghyr Jail	1
Ditto, Palamow Intermediate Jail, Palamow ...	1
Ditto, Purneah Jail	1
Ditto, Kurnafuli Tea Association, Hulda Valley, Chittagong	5
Officiating Superintendent, Tributary Mehals, Cuttack ...	12
T. C. Anderson, Esq., Maskeliya, Ceylon	7
Sir A. J. Arbuthnot, K.C S.I., India Office, London ...	107
Signor T. Arcangeli, Italy	1
William Bull, Esq., F.L.S., Chelsea, London	4
B. L. Cumberland, Esq , Durban	1
C. Curtis, Esq., Penang	8
A. Forbes, Esq., Morkeu, Aberdeen	37
W. G. Head, Esq., Crystal Palace, London	5
R. D. Hoyt, Esq., Proprietor, Bay View Nurseries, Florida ...	3
Joseph Hughes, Esq , Townsville, Queensland	106
James Inglis, Esq., Sydney, Australia	27
Mrs. Irvine, Drum, Scotland	16
H. C. Levinge, Esq., Knockdrin Castle, Ireland ...	62
D. Low, Esq., Brindisi	2
Baron Ferdinand von Muller, F. R. S., University, Melbourne	4
J. Nelson, Esq., Florida	8

APPENDIX IV—*continued.*

To whom sent.	Number of parcels or packets.
Reverend A. Pakenham, Ireland	18
David Prain, Esq., Fettercairn, Scotland	12
Lieutenant C. C. Reid, Penang	3
R. M. Redhead, Esq., Springfield, England	37
Alexander Thomson, Esq., 14, Carden Place, Aberdeen ...	12
George F. Wilson, Esq., Heather Bank, Weybridge Heath, England	39
Thomas C. Wilson, Esq., Soerabaya, Java	1
Messrs. Dammann and Company, San Giovanni, Italy ...	36
„ Hugh Low and Company, London	22
„ Reasoner Brothers, Royal Palm Nurseries, Manattee, Florida	2
„ F. Sander and Company, St. Albans, England ...	3
„ Haage and Schmidt, Erfurt	5
„ James Veitch and Sons, London	1
Deputy Commissioner, Kohat	2
Ditto Tura	6
Conservator of Forests, Northern Circle, Madras	14
Ditto, Shillong	1
Assistant Conservator of Forests, Jhelum	10
Ditto, Ajmere	21
Acting Conservator of Forests, Southern Circle, Madras ...	1
Officiating Conservator of Forests, Nagpur	1
Sub-Assistant Conservator of Forests, Jalpaiguri ...	1
Executive Engineer, Brahmini-Byturni Division, Cuttack ...	1
Ditto, Dehree Workshop Division, Dehree ...	1
District Engineer, Dinajpur	6
Ditto, Rungpur	1
Chief Engineer, East Indian Railway, Calcutta	1
Collector and District Magistrate, North Arcot	11
Civil Surgeon, Prome	43
Ordnance Officer in charge of the Arsenal, Fort William ...	6
District Staff Officer, Quartermaster-General's Department, Fort William	4
W. Craw, Esq., Ranikhet	2
Manager, Bengal Stone Company, Limited, Calcutta ...	5
Proprietor and Manager, Pikeparah Nursery, Calcutta ...	1
Sub-Divisional Officer and Chairman, Local Board, Ranaghat	6
Ditto, Pakur	27
Station Master, Toungoo-Mandalay Extension, Myotta ...	21
Principal, Government College, Ajmere	3
Lieut.-Col. H. B. Abbott, Jhalrapatan	3
Political Agent, Bhopal, Sehore	106
J. Barclay, Esq., Silchar	1
C. C. Bush, Esq., Mazira, Assam	43
Reverend John Cain, Dumagudiem, Godavari	1
J. Gammie, Esq., Mungpoo	22
David Foggo, Esq., Calcutta	2
W. T. Hall, Esq., Rangoon	1
Lieutenant H. Hodges, Monywa	4
Captain Hutchinson, Yeu	2
T. Kanaran, Esq., Tellicherry, Malabar	1
J. Muir Mackenzie, Esq., Calcutta	1
George H. T. Mayer, Esq., Khusru Bagh, Allahabad ...	13
George H. T. Mayer, Esq., Lucknow	1
Major N. C. Martelli, Dholpur	10
J. W. Midru, Esq., Masulipatam	6
Mrs. J. M. MacMiller, Chicacole	1
E. F. Mondy, Esq , Dacca	4
Mrs. Nolan, Darjeeling	12
R. Pantling, Esq., Mungpoo	6
Reverend W. Sutherland, Kalimpong	1
Mrs. Talbot, Bikanir	1
George Thomas, Esq., Monghyr	1
Mrs R. H. L. Townsend, Calcutta	1
M. R. Weld, Esq., Ganjam District, Berhampur ...	3
Ditto ditto ditto, Kurnool	31
Sir Alexander Wilson, Calcutta	1
G. Marshall Woodrow, Esq., Poona	127

APPENDIX IV—*concluded.*

To whom sent.				Number of parcels or packets.
Pundit U. Narasinga Rao, Mangalore		...	...	1
Baboo D. N. Basu, Seebpore	...	...	...	20
,, D. P. Dutta, Cawnpore	...	...	...	11
,, G. C. Datta, Seebpore	...	...	...	25
,, H. L. Singh, Ajaigarh	...	...	...	3
,, M. C. Baumik, Sajapukar, Shampur		..	...	2
,, M. M. Bosu, Bogra	...	...	...	1
,, M. D. Mookerjee, Chinsurah	...	...	...	3
,, N. C. Boy, Calcutta	...	...	...	9
,, P. N. Singh, Bankura	...	...	...	2
,, R. M. Bose, Shahabad	...	...	...	3
,, S. L. Pragnarain, Agra City	...	...	...	1
		Total	...	3,619

G. KING, M.B., *Brigade-Surgeon,*
Superintendent, Royal Botanic Garden, Calcutta.

E. D'S.—Reg. No. 498J—320—6-6-90.

FINANCIAL DEPARTMENT.

MISCELLANEOUS.

DARJEELING, THE 14TH JUNE 1890.

RESOLUTION.

READ—

The Annual Report of the Botanic Gardens for the year 1889-90.

Dr. King's report, which will as usual be published in the Gazette, gives an interesting account of the work done during the past year. The gardens have been maintained in a high state of efficiency, the herbarium in particular has been especially attended to, and organised exploration in Burma and Assam has added to it some valuable collections. Under the recent order of the Government of India this exploration will be extended. The control of Indian botanical operations has been centralised in the Calcutta Gardens, and the Superintendent has been appointed Director of the Botanical Survey of India. The grants promised by the Administrations of Burma and Assam will enable collections to be made on a larger scale and more continuously. As this work will constitute a separate Department, it has been ordered that in future years a separate report should be submitted on the subject.

2. During the year Dr. King issued a monograph on jack-fruits, oaks and chestnuts of the Indo-Malayan region. This forms the second volume of the Garden annals. The third and concluding part of his monograph on the genus *Ficus* has lately been issued. Dr. Prain has also published several important papers which are described in the Superintendent's Report.

3. The thanks of the Lieutenant-Governor are due to Dr. King, and to his able Assistant, Dr. Prain, for the very thorough and successful discharge of their duties throughout the year.

ORDER.—Ordered that a copy of this Resolution, and of the Report, be submitted to the Government of India, in the Revenue and Agricultural Department, for information.

Ordered also that a copy of this Resolution be forwarded to the Superintendent of the Botanic Gardens for information.

By order of the Lieutenant-Governor of Bengal,

H. J. S. COTTON,

Secretary to the Government of Bengal.

No. M $\frac{2\text{-B}}{3}$ 2.

COPY forwarded to the Superintendent of the Royal Botanic Gardens, Calcutta, for information.

By order of the Lieutenant-Governor of Bengal,

H. J. S. COTTON,

Secretary to the Government of Bengal.

CALCUTTA,
The 18th June 1890.